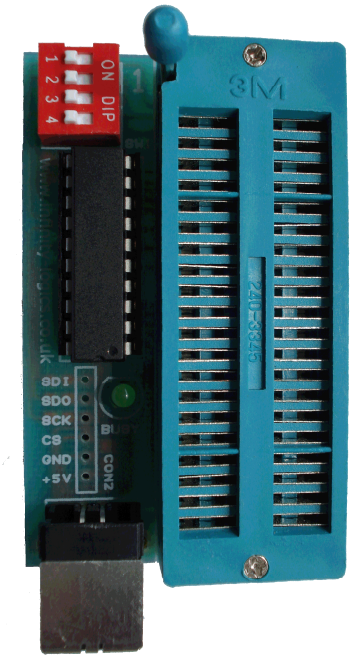

SmartPro S51 User Guide

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Please view *SmartPro Installation Guide* for instructions on how to install *SmartPro software*.

Kit Contents

SmartPro S51 Kit consists of:

- SmartPro S51 Programmer
- SmartPro Software
- USB Cable (optional)

Device Programming

Device programming using *SmartPro S51 programmer* along with *SmartPro software* is very simple and involves following steps.

Hardware Setup

DIP Switch Settings

There is a DIP switch on SmartPro S51 which must be configured properly to program a device as shown below.

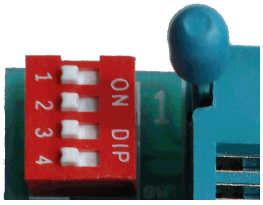


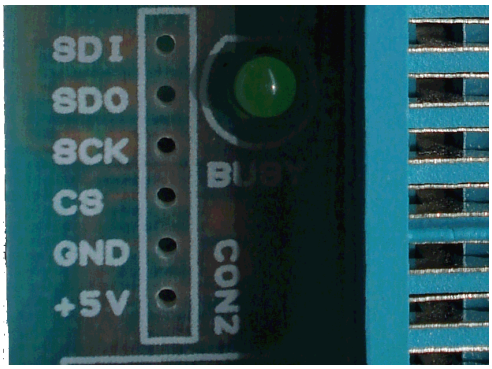
Table below shows the valid settings of the DIP switch.

DIP Switch	AT89S2051, AT89S4051	AT89S51, AT89S52, AT89S8253	AT25XXX SPI EEPROM
1	OFF	OFF	OFF
2	ON	OFF	OFF
3	OFF	OFF	OFF
4	ON	OFF	ON

DIP switch should be configured prior to connecting the programmer to the computer.

Device Insertion/Connection

Insert the device to be programmer either in the provided Zif socket on the programmer or connect using SIL (Single in Line) Header for ISP programming. The connections for the SIL header are shown below.

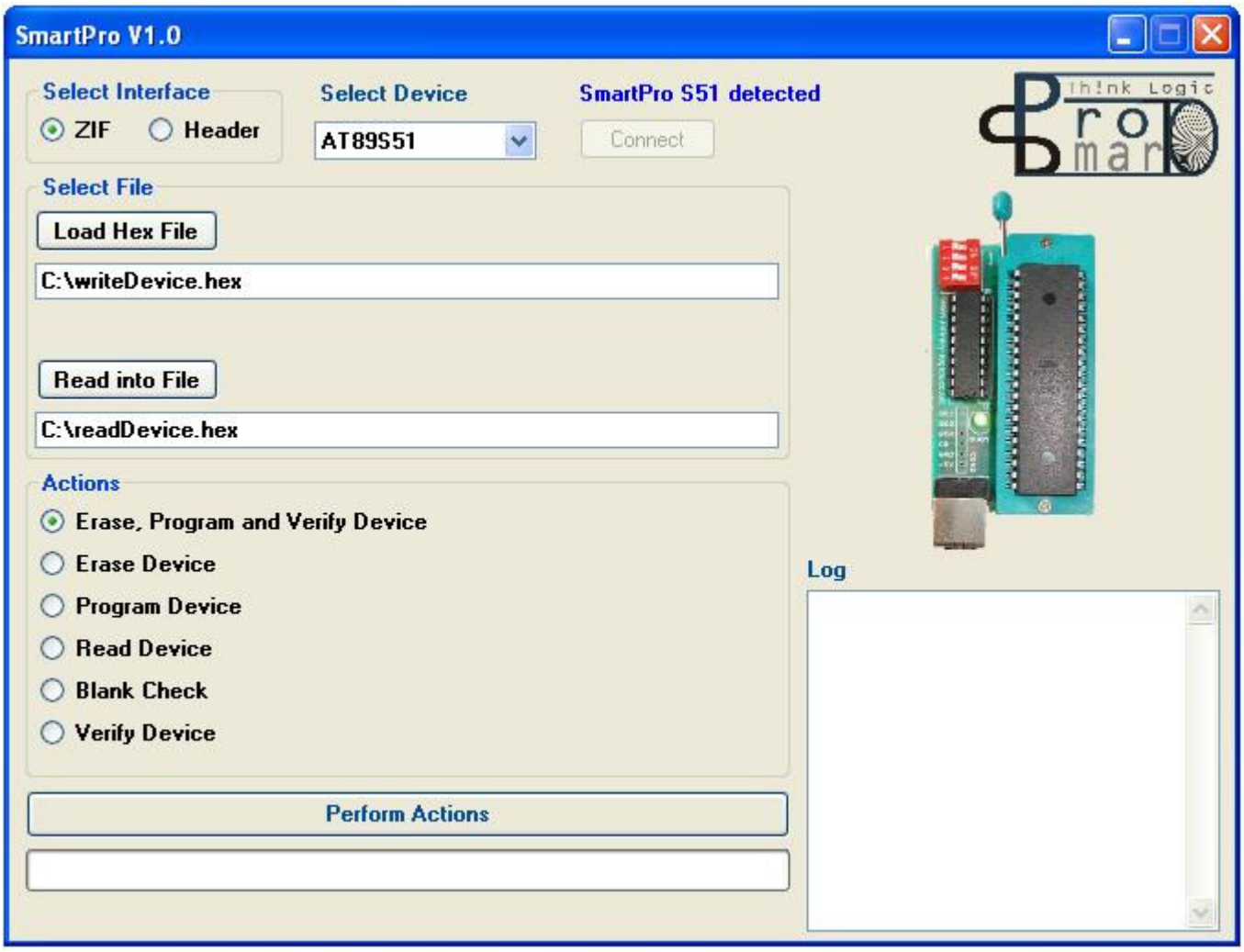


SIL Header Signal Name	Programmer Signal Type	Device Connections
SDI	Input	Connect to MISO
SDO	Output	Connect to MOSI
SCK	Output	Connect to SCK
CS	Output	Connect to RST
GND	Power	Connect to GND
+5V	Power	*See note below

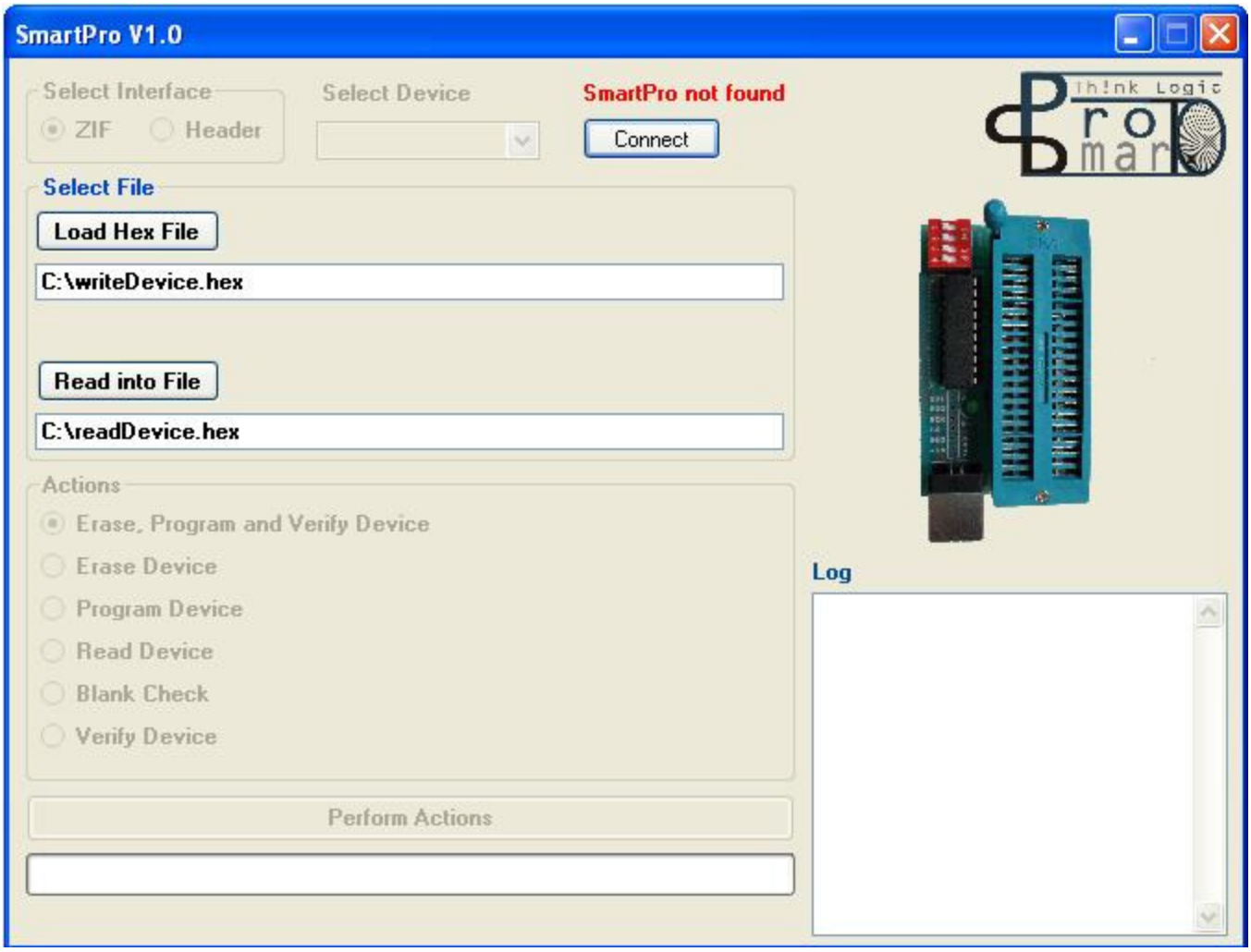
*****Note that when SIL header is used, device to be programmed can be powered either from "+5V" signal on the SIL header or can be powered from its own power source. The device should have its own oscillator circuitry.

Software Setup

After having done the above steps, plug in the programmer to USB port and run SmartPro software. SmartPro software will automatically detect the programmer SmartPro S51 and connect with it as shown below.



Alternatively, SmartPro software can be executed before even plugging the programmer into the USB port. The software screen will display the message "SmartPro not found". After plugging in the SmartPro S51 programmer, click on "Connect" button to connect to the programmer as shown below.



Select Interface

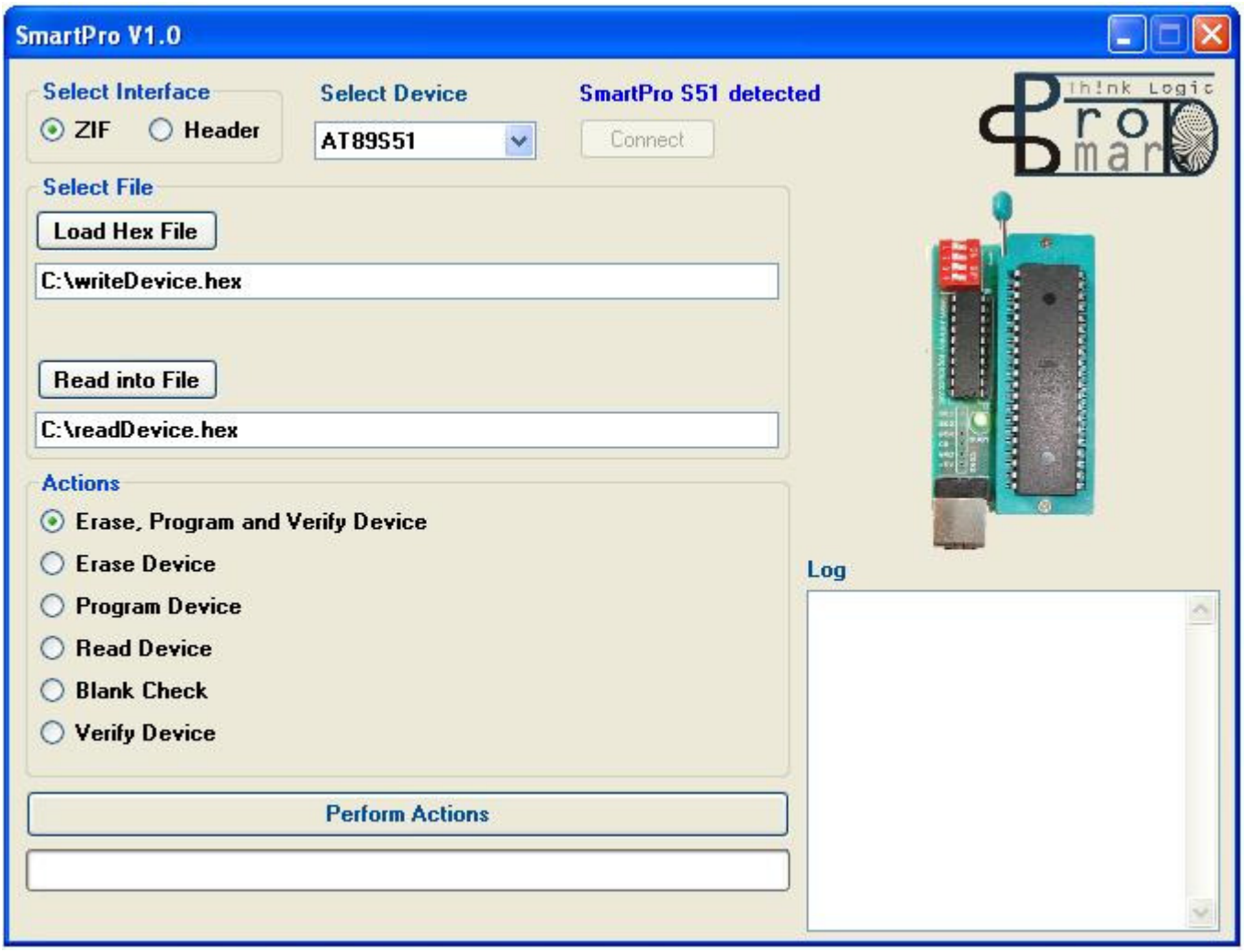
Select Zif or Header interface depending on whether the device to be programmed is inserted into Programmer's Zif socket or connected using SIL Header interface as shown below.

Select Device

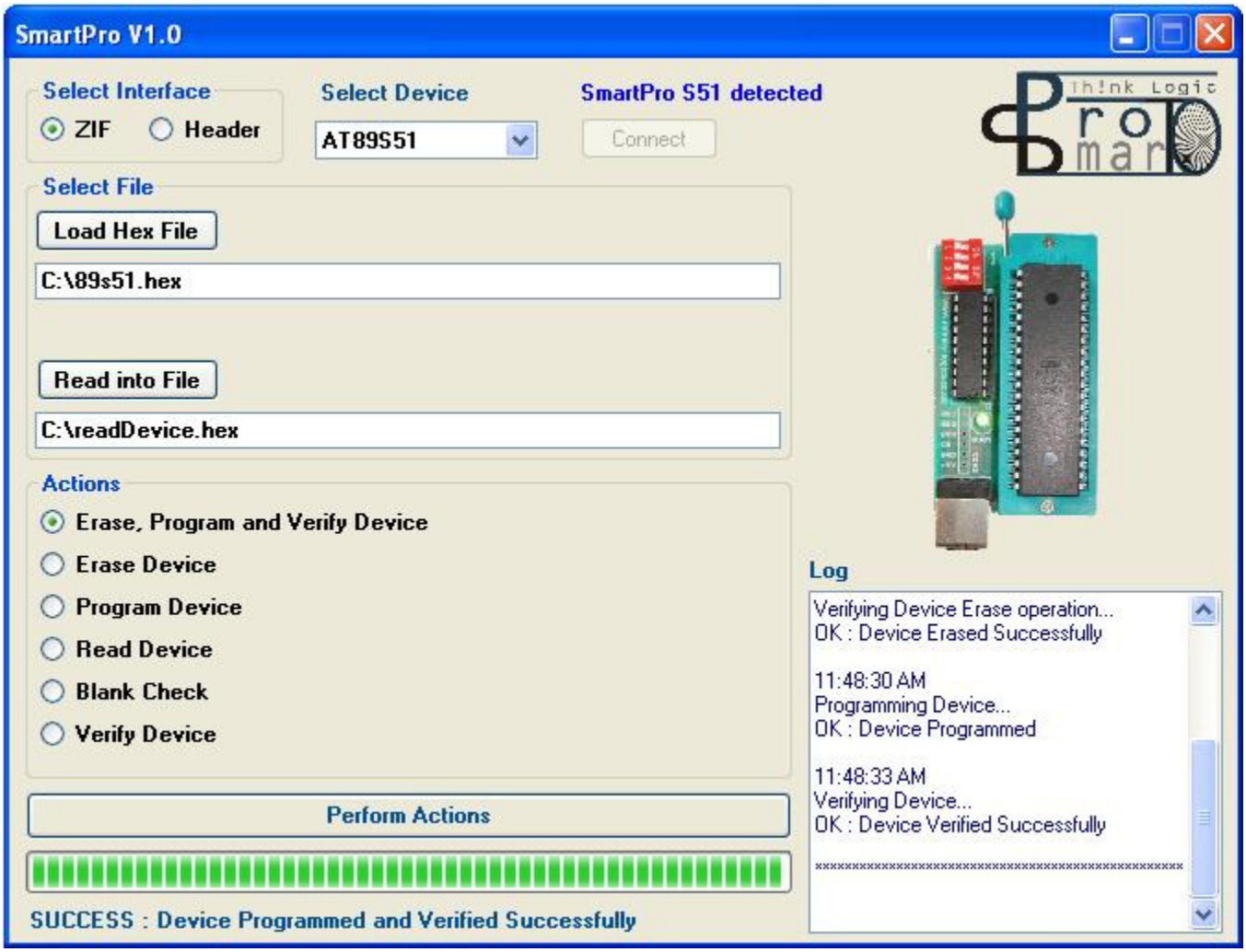
Select device to be programmed from the list of devices as shown below.

Select & Perform Action

From the "Actions" group, select the desired operation and click on "Perform Actions" button. As an example, "Erase, Program and Verify Device" has been selected in the figure below.

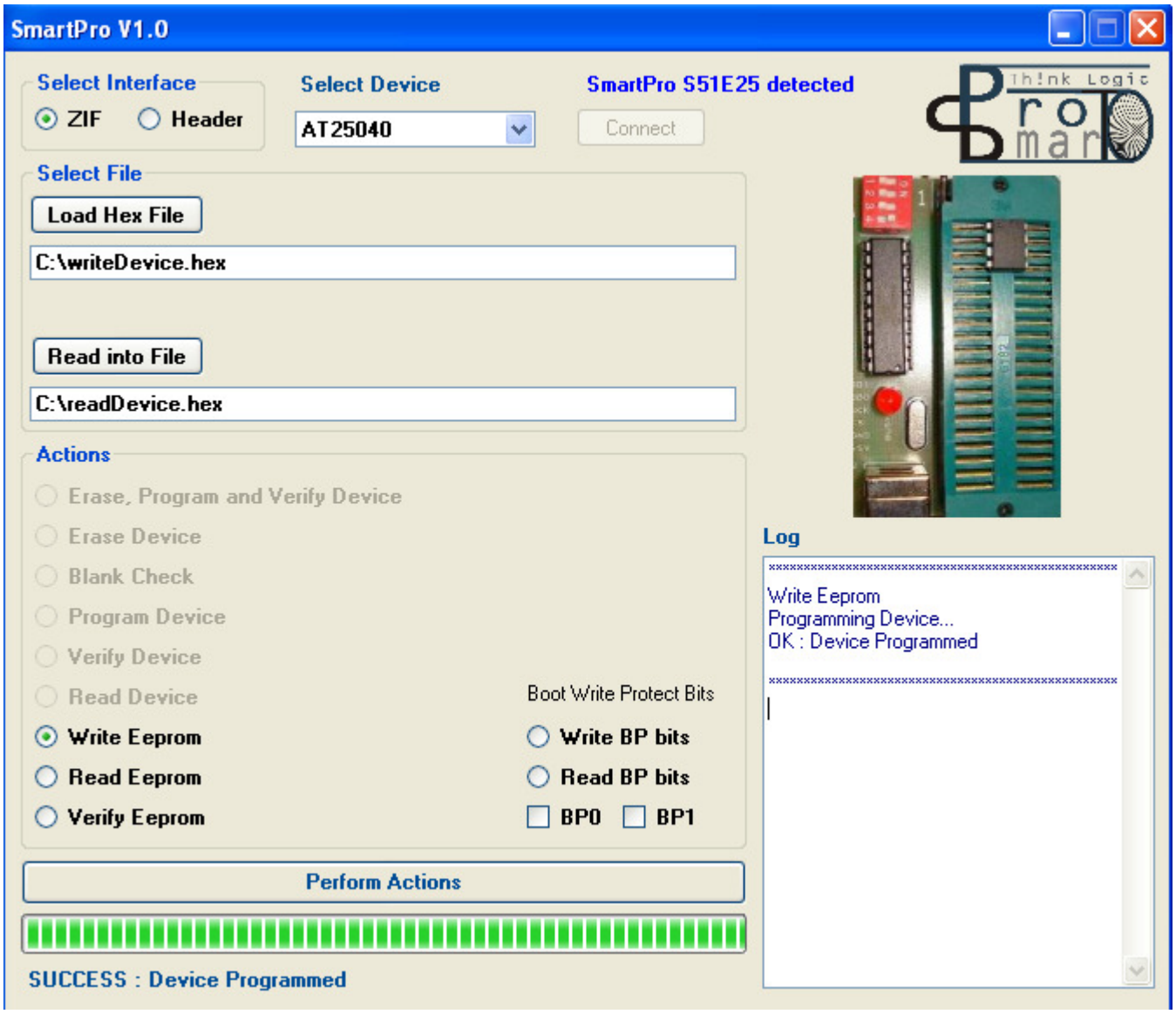


Progress for any action is shown on the software window. Also, Log window is available to view. Figure below shows an example of successful Erase, Program and Verify operation for AT89S51 using Zif socket.



Programming EEPROM

Same procedure as described above should be followed to program EEPROM chips. The software automatically displayed relative options whenever a device is selected. Screenshot below shows successful write operation to a AT25040 chip.


SmartPro V1.0
Select Interface
ZIF
Header
Select Device
AT25040
SmartPro S51E25 detected
Connect
Select File
Load Hex File
C:\writeDevice.hex
Read into File
C:\readDevice.hex
Actions
Erase, Program and Verify Device
Erase Device
Blank Check
Program Device
Verify Device
Read Device
Write Eeprom
Read Eeprom
Verify Eeprom
Boot Write Protect Bits
Write BP bits
Read BP bits
BP0
BP1
Perform Actions
SUCCESS : Device Programmed
Log
Write Eeprom
Programming Device...
OK : Device Programmed